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ABSTRACT

The development of attributional patterns for male and female success and failure in sex-typed activities was examined. A total of 243 children in preschool, first, third, fifth, and eleventh grades were given a booklet of eight drawings, each of which depicted a young adolescent completing a task. The drawings varied on sex of actor, sex-typing of task, and outcome. Below each drawing was a brief written description of the situation and outcome followed by four explanations of the outcome which referred to (a) task difficulty, (b) effort, (c) luck, and (d) skill. Each subject was asked to indicate which explanation was most appropriate for the depicted situation. Results indicated that different attributional patterns for explaining male and female performance were well established by first grade and that they remained strikingly stable thereafter. As predicted, the unexpected outcome of succeeding at a sex-inappropriate task was attributed to an unstable factor (effort) while the expected outcome of failing at a sex-inappropriate task was attributed to stable factors (skill for males, task difficulty for females). Within the context of sex-appropriate tasks, males' failure on the masculine task was explained by lack of effort (internal, unstable) whereas females' failure on the feminine task was explained by lack of skill (internal, stable). This attributional pattern was not manifested by the preschoolers. Possible explanations for and implications of these findings are discussed. (JMB)

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The Development of Causal Attributions for Success and Failure of Males and Females

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This paper was presented at the meetings of the Society for Research in Child Development, San Francisco, March, 1979. It is an extension of an earlier project which included the three oldest samples of children and which was presented at the annual meeting of the Eastern Psychological Association, Washington, D. C., March, 1978.

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The Development of Causal Attributions for Success and Failure of Males and Females

Even when identical feedback regarding achievement is given, evaluations of performance and future performance expectancies appear to vary as a function of the actor's sex with males perceived more optimistically than females. This phenomenon has been explored using Weiner, Frieze, Kukla, Reed, Rest and Rosenbaum's (1971) model for understanding perceptions of the causes of success and failure. Attributions for performance are seen to vary along two dimensions: (a) stable-unstable, and (b) internal-external. Accordingly, unexpected outcomes are more readily attributed to unstable factors such as effort (internal) or luck (external) whereas expected outcomes are more readily attributed to stable factors such as skill (internal) or task difficulty (external) (Etaugh & Brown, 1975; Feather, 1969; Feather & Simon, 1971; Frieze & Weiner, 1971; Weiner et al., 1971).

There is much evidence that explanations for a person's task performance will vary as a function of the sex of the performer (e.g., Deaux & Emswiller, 1974; Dweck, 1975; Etaugh & Brown, 1975; Feldman-Summers & Kiesler, 1974). This undoubtedly reflects, in part, the different expectancies which are held for male and female performance. As Valle (1974) suggests, people adopt those explanations which require the least reorganization or change in their current conceptions. Thus it is suggested that individuals with low initial expectancies attribute their own failures to internal and stable factors and their successes to unstable or external factors. As Parsons, Ruble, Hodges & Small (1976) have also noted, this model is generally supported by Dweck, 1975; Dweck & Repucci, 1973; Feather & Simon, 1971, among others. What is alarming is that this attributional pattern of the low-expectancy individual is one which has also typically been reported in both actors' and observers' attributions of female performance (e.g., Etaugh & Brown, 1975; McMahan, 1972). In contrast, attributions of male performance have followed the opposite pattern explaining success by internal, stable factors and failure by external, unstable causes.

On the other hand, to the extent to which causal attributions for performance are a function of one's performance expectancies, the nature of the task should also be critical in shaping explanations of male vs. female performance. Presumably success on a "sex-inappropriate" task or failure on a "sex-appropriate" task is an unexpected outcome and therefore will be attributed to unstable or external factors; failure on a sex-inappropriate task or success on a sex-appropriate task is expected and will be attributed to internal, stable factors (Bond-Dunn, Deming & Goodman, 1978; Deaux & Emswiller, 1974; Etaugh & Brown, 1975; Feldman-Summers & Keisler, 1974; Stein, Pohly & Mueller, 1971).

In an attempt to understand the establishment of sex biases in causal attributions, researchers have begun to investigate the development of these attributional patterns in children (e.g., Bond-Dunn et al., 1978; Etaugh & Brown, 1975). As Parsons et al. (1976) have noted, there is substantial evidence that sex differences in achievement expectancies are well established early in middle childhood (Dweck & Gillard, 1975; Maccoby & Jacklin, 1974; Nichols, 1975; Stein et al., 1971) and perhaps as early as six or seven years of age (Crandall, 1969; Pollis & Doyle, 1972; Stein & Smithells, 1969). Furthermore, even these early sex role standards and expectancies about achievement have been found to be a function of the "sex-appropriateness" of the task involved (e.g., Stein et al., 1971; Stein & Smithells, 1969). Hence, given the hypothesized relationship between expectancies and causal attributions, one would expect early differences in causal attributions for performance related to sex of performer and sex appropriateness of task.

Bond-Dunn et al. (1978) attempted to examine the developmental emergence of these attributional patterns in the context of sex-specific task domains. In doing so, they confirmed the interactive impact of sex of actor and sex-typing of task among third, fifth and eleventh graders. At each age success on "sex-inappropriate" tasks was attributed to an unstable factor (effort) while failure was explained by stable factors (skil for males, task difficulty for females). Meanwhile, the age

of emergence of this pattern remained unclear in that the youngest group examined, the third graders, were already responding essentially identically to the fifth and eleventh graders. The present study sought to examine the attributions of younger children in order to gain clarity on the emergence of this pattern of causal explanations.

Method

Subjects

Approximately equal numbers of female and male preschoolers, 4½-5 year olds (n = 30); first (n = 48), third (n = 52), fifth (n = 57), and eleventh (n = 56) graders completed the experimental task during 15 minutes of their regular class time. Students were primarily from White, middle and upper-middle SES Burlington, Vt. families. Parental and school administration informed consent had been obtained.

Procedure

The experimenter drew the children's attention toward the issue of factors that affect people's performance. This discussion referred to and distinguished between meanings of luck, skill, effort and task difficulty. The precise introduction varied so as to be age-appropriate, and the 5th and 11th graders also read a brief description of the nature of the task. All students were given a booklet of eight drawings, each of which depicted a young adolescent completing a task. The drawings, which were arranged in an identical random order for all subjects, varied from one another as a function of Sex of Actor (male vs. female), Sex of Task (masculine/building a "go-cart" vs. feminine/baking a cake), and Outcome (success vs. failure). Below each drawing was a brief written description of the situation and outcome followed by four explanations for the outcome which referred to (a) task difficulty, (b) effort, (c) luck, and (d) skill (in that order).

Preschoolers and first graders were tested individually. The experimenter

showed the child a drawing, read the description, read the four alternative explanations at least twice for the child, and marked the child's response. Third graders proceeded through their booklets as a group, with the teacher reading the situations and explanations aloud; fifth and eleventh graders read individually at their own pace. For each drawing, subjects were to circle the explanation which they felt was most appropriate for the depicted situation.

Results

Using an ANOVA of dichotomous data (Winer, 1971), attributions were analyzed at each grade level by a 2 x 2 x 2 x 2 x 4 design (Sex of S x Sex of Actor x Sex of Task x Outcome x Attribution) with repeated measures on the last four factors. A main effect for Attribution at each grade revealed that performance was most frequently attributed to effort and skill, $F(3,84) = 15.13$, $p \leq .001$, $F(3,138) = 21.47$, $p \leq .001$, $F(3,150 = 20.39$, $p \leq .001$, $F(3,165) = 67.48$, $p \leq .001$, $F(3,162) = 12.52$, $p \leq .001$, for preschool, 1st, 3rd, 5th and 11th respectively. However, Attribution consistently interacted with outcome such that 'effort' was more frequently used to explain success than failure whereas 'task difficulty' was used to explain failure more often than success, $F(3,138) = 16.76$, $p \leq .001$, $F(3,150) = 28.52$, $p \leq .001$, $F(3,165) = 13.67$, $p \leq .001$, $F(3,162) = 13.46$, $p \leq .001$, for 1st, 3rd, 5th and 11th, respectively.

A Sex of Actor x Attribution interaction among 3rd, $F(3,150) = 3.06$, $p \leq .04$, and 5th graders, $F(3,165) = 5.47$, $p \leq .002$, revealed that 'task difficulty', an external factor, was more often used to explain female than male performance whereas 'skill' (at 3rd grade) and 'effort' (at 5th grade), both internal factors, were more often used to explain male than female performance.

Most specifically and importantly, a consistent Sex of Actor x Sex of Task x Outcome x Attribution interaction arose at all but the preschool level, $F(3,138) = 2.94$, $p \leq .03$, $F(3,150) = 2.89$, $p \leq .04$, $F(3,165) = 7.43$, $p \leq .001$, $F(3,162) = 5.02$,

$p \leq .003$, for 1st, 3rd, 5th and 11th respectively. The nature of this interaction was strikingly similar across grade level (see Tables 2-5). While success on both the masculine and feminine tasks was primarily attributed to 'effort', this was significantly more the case when actors succeeded on a sex-inappropriate task; failure on the feminine task was attributed to 'skill', particularly for male actors, while failure on the masculine task was attributed to 'task difficulty' for females but to 'effort' for males ($p \leq .05$).

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Insert Tables 1, 2, 3, 4 and 5 about here

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Discussion

It appears that different attributional patterns for explaining male and female performance are well established by 5-6 years of age and remain strikingly stable through development. This seems to reflect the fact that, at an early age, boys and girls agree with each other and with adults in their differential explanations for the causes of success and failure of males and females.

An understanding of these attributional patterns clearly involves a consideration of the nature (sex-typing) of the situation involved. As predicted, the unexpected outcome of succeeding at a sex-inappropriate task was attributed to an unstable factor (effort). The expected outcome of failing at a sex-inappropriate task was attributed to stable factors (skill for males, task difficulty for females). These explanations have important implications for the perpetuation of current sex role stereotypes. As long as we explain success on "sex-inappropriate" tasks by unstable factors and failure by stable factors there is no pressure, nor in fact, any reason for us to alter our conception of masculine vs. feminine abilities. The vicious cycle is there. Our stereotypes support differential expectations and thus differential explanations of male and female performance. These causal attributions,

in turn, both allow and promote the persistence of these stereotypes in the face of otherwise discrepant information.

Within the context of sex-appropriate tasks, the pattern replicated certain earlier findings on differential explanations for male and female failure. Males' failure on the masculine task was explained by lack of effort (internal, unstable) whereas females' failure on the feminine task was explained by lack of skill (internal, stable). While perhaps a frustrating experience for the male who has tried his hardest, this finding supports the notion of the selective and significant impact of failure feedback on females as compared to males (e.g., Dweck & Bush, 1976). Furthermore, looking across conditions, external factors (luck and task difficulty) were emphasized and internal factors (skill and effort) were de-emphasized for female as compared to male performance.

While this attributional pattern appeared quite predictably in first grade and thereafter, it was not manifested by the 4½-5 year old preschoolers. There appear to be a number of potential explanations for this inconsistency. First, it may be that the preschoolers have not sufficiently developed the sex-differentiated performance expectancies which presumably contribute to the differential causal explanations. Second, preschoolers may have already developed these sex-differentiated performance expectancies but may engage in different processes of making inferences from expectations to attributions.

A third possible factor encouraging the emergence of this attributional pattern during the first grade is the children's experience in the school classroom. As Dweck, Davidson, Nelson & Enna (1978) have demonstrated, teachers' use of evaluative feedback differs for male and female students in such a way as to promote the attributional patterns described in this study. However, this argument needs to be further examined, particularly as an explanation for the present findings, since the first graders were tested in November after only two months of

elementary schooling. Furthermore, one might expect that the preschoolers have had similar evaluative feedback experiences in their preschool setting.

A fourth possible explanation for the inconsistent findings among the preschoolers may concern the specific methodology employed in this study. It will be recalled that the preschoolers and first graders were individually tested. The experimenter presented the stimulus picture, read its description, and then read the alternative explanations from which the child was to choose. It is quite possible that some of the youngest children were experiencing a retention problem; that is, they may have had difficulty maintaining all four alternative explanations under consideration. In fact, the summary of the preschoolers' responses, presented in Table 1, suggests somewhat of a recency effect; both 'luck' and 'skill' (the last alternatives presented to all subjects) were chosen at a considerably higher frequency than at other grade levels. Thus the attributional pattern may emerge even earlier than the present study has been able to detect.

In summary, given the incredibly early age at which these sex differentiated attributions for performance exist, we need to examine more carefully those socialization factors which precede the school experience. That is, we need to examine the types of evaluative feedback which preschoolers, toddlers, and perhaps even infants are receiving in home and play situations. Furthermore, any attempts to intervene in the development of these detrimental attributional patterns seem most appropriately directed toward the pre-elementary school environment.

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Table 1

Mean Attribution Scores of Preschoolers (N=30)

		Female task		Male task	
		Success	Fail	Success	Fail
Female Actor:	Task difficulty	.027	.037	.041	.021
	Effort	.311	.281	.275	.387
	Luck	.174	.087	.107	.203
	Skill	.488	.595	.577	.389
Male Actor:	Task difficulty	.051	.033	.117	.045
	Effort	.326	.261	.255	.292
	Luck	.104	.245	.072	.172
	Skill	.519	.461	.556	.491

Table 2

Mean Attribution Scores of First Graders (N=48)

		Female task		Male task	
		Success	Fail	Success	Fail
Female Actor:	Task difficulty	.041	.260	.019	.435
	Effort	.603	.231	.721	.191
	Luck	.062	.164	.083	.150
	Skill	.294	.345	.177	.224
Male Actor	Task difficulty	.000	.222	.027	.363
	Effort	.714	.149	.493	.374
	Luck	.073	.158	.101	.111
	Skill	.213	.471	.379	.152

Table 3

Mean Attribution Scores of Third Graders (N=52)

		Female task		Male task	
		Success	Fail	Success	Fail
Female Actor:	Task difficulty	.040	.251	.019	.576
	Effort	.633	.213	.638	.179
	Luck	.037	.176	.057	.114
	Skill	.290	.361	.287	.131
Male Actor:	Task difficulty	.056	.230	.019	.328
	Effort	.579	.154	.408	.333
	Luck	.059	.150	.114	.150
	Skill	.307	.464	.459	.190

Table 4

Mean Attribution Scores of Fifth Graders (N=57)

		Female task		Male task	
		Success	Fail	Success	Fail
Female Actor:	Task difficulty	.084	.058	.019	.405
	Effort	.720	.576	.714	.347
	Luck	.058	.019	.074	.016
	Skill	.187	.347	.177	.231
Male Actor:	Task difficulty	.000	.055	.000	.125
	Effort	.804	.530	.752	.598
	Luck	.000	.074	.051	.074
	Skill	.180	.293	.212	.203

Table 5

Mean Attribution Scores of Eleventh Graders (N=56)

		Female task		Male task	
		Success	Fail	Success	Fail
Female Actor:	Task difficulty	.099	.109	.052	.307
	Effort	.417	.281	.578	.224
	Luck	.089	.234	.047	.089
	Skill	.375	.375	.323	.365
Male Actor:	Task difficulty	.089	.172	.057	.203
	Effort	.604	.219	.536	.286
	Luck	.016	.141	.052	.141
	Skill	.313	.427	.333	.349